

MODIS Technical Team Meeting
Thursday, November 9, 2000
3:00-4:30 PM

Bob Murphy chaired the meeting. Present were Sol Broder, Steve Kempler, Eric Vermote, Ed Masuoka, Bill Barnes, Bruce Ramsay, Bruce Guenther, Skip Reber, Mike Roberto, Wayne Esaias, and Barbara Conboy, with Rebecca Lindsey taking the minutes.

1.0 Schedule of Upcoming events

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| • PORSEC 2000
Goa, India | December 5-8 |
| • AGU Fall Meeting
San Francisco, CA | December 15-19 |
| • MCST Meeting
Location TBD | January 22, 2001 (afternoon) |
| • Land Validation Meeting
Location TBD | January 22-23, 2001 |
| • Ocean Group Meeting
Location TBD | January 23, 2001 |
| • Atmosphere Group Meeting
GSFC (Bldg. 33, H114) | January 23, 2001 |
| • MODIS Science Team Meeting
Columbia Sheraton Hotel | January 24 - 26, 2001 |
| • EOS Investigator Working Group meeting
Ft. Lauderdale, Florida | January 30 - February 1, 2001 |

2.0 Meeting Minutes

2.1 Instrument Update

Mike Roberto reported that the feedback received since the switch to the Terra MODIS B-side electronics has indicated that the expected improvements to the instrument performance have been achieved. In particular, the noise in the TIR bands from the ADC circuitry is greatly reduced. In other aspects, performance is similar to A-side. There have been no MODIS Formatter upsets since switching to the B side.

MODIS Flight Model 1 is undergoing spacecraft-level testing, with vibration testing taking place November 9th. The boards for bands 31 and 32 (which had the gains changed) have been turned on, and the temperatures and voltages were consistent with what they were before the board changes. Actual performance will be determined during spacecraft-level, thermal-vacuum testing, which will occur early next year.

Roberto was asked about the cause of the Terra Science Formatting Equipment A (SFE-A) anomaly on October 26. The anomaly resolution team concluded that it was probably a Single Event Upset (SEU) that caused SFE-A to shut off. The SFE was off for about 24 hours. The science data for this time period was lost.

2.2 MCST Update

Vermote asked Guenther if the look-up tables (LUTs) for the B-side electronics will be significantly different from the current tables. Guenther estimated that the difference would be slight, perhaps 2-3% in most cases. The new tables should be in to the software people Thursday, November 16th. If disciplines would like some test data, they should contact Jim Rogers.

Guenther reported that the Paul Ondrus had requested written documentation on 1) how MODIS will operate during the Leonid Meteor Showers between November 16th and 18th and 2) the rationale for the decision. SBRS was concerned about possible electrostatic discharge (ESD), and would have liked to run MODIS on low power during the event. However, analysis by Mitch Davis indicates there is no risk of ESD in low-Earth orbit. In addition, operation at low power means turning off the scan mirror, and Guenther believes that turning off the scan mirror does have risk associated with it. Given the Davis report that ESD is *not* an issue at low-earth orbit, and turning off the mirror *is* a risk, MCST recommends that the safest approach is to leave MODIS operating normally, with no calibration activities. Vince Salomonson accepted this recommendation. Guenther sent an email to Ondrus documenting this decision.

MCST is still investigating the issue of apparent fluctuations over time in mirror-side RVS differences. The problem may be electronic in nature, rather than a true change in the RVS. The first goal is to determine where it is coming from so that we can make the right corrections to the data. One possible way to describe the situation is as a time-dependent bias in the power supply. The bias could be coming from how the power supply switches within three-second intervals. There is an idea that formatter commands that turn off the synchronization between the formatter and the power supply might be used to examine the problem. Such a command should not affect the data set, and might explain something about time-dependent bias in the scan line. SBRS will be looking into this.

2.3 GDAAC Update

They are currently processing forward on data days 297-304. Data days 284, 287, and 290 are not yet closed due to holes in the data. There is a possibility that there is unrecoverable data for some of those days. They reordered missing data from EDOS, but received the wrong data. Filling in the holes has been slowed by competing MCST processing as well as other instrument requests.

Masuoka commented that having those days still open is not a problem for MODAPS at this point, but it will be next week. Murphy suggested that disciplines check on the exact days and times of the missing data to determine if there is anything especially important about those days. Kempler commented that the days and times that are missing had been provided to the discipline teams. If data continue to be delayed, and the disciplines have no complaints, they may close those days.

Kempler announced that Bruce Vollmer will be in charge of coordinating reprocessing at the DAAC. The goal is to have all inputs available for when reprocessing happens.

Kempler reported on discussion from the PI Processing meeting about the fact that the DAAC is expected to reach the start of the Side-B change (data-day 303-304, Oct. 30-31) next Thursday, November 16th. The Side-B L1B LUT is currently scheduled to be in operations at the DAAC on or about November 22nd-23rd. At that time, the DAAC will have to wait 6-7 days to process the L1B data.

The PI Processing team suggested filling that gap by having the GDAAC process high priority calibration/validation days that may have been missed the first time around, as well as continuing the L1A and geolocation processing. Kempler requested an official request regarding this matter (see action item 4.1).

Kempler reported that they would be down next week due to power outages from Monday afternoon possibly into Tuesday.

2.4 SDST Update

Masuoka reported that Conboy had talked to Ron Kaese about releasing all science software that hadn't already been released. Kaese recommended providing a letter from Ghassam Asrar to the effect that it had always been part of the project plan or charter for all software to be released to the public (see action item 4.2).

Masuoka also reported that there will be a UPS system building shutdown (also responsible for the GDAAC shut down) on the 14th into the 15th. He may be participating in a review process about preparing for the shutdown.

He is also working on security issues to achieve compliance by the end of the year.

With respect to data production, MODAPS processed six days out of seven, and they are currently about twenty-five days behind real time. This past week they had tape retrieval issues.

They are trying to establish a high-speed network link to Maryland and Miami, but there were some broken routers, which will take a month or two to fix. As a temporary fix, they are currently going through Pat Gary's Earth Science Network. It appears that they are getting about 90 megabits/second, and are avoiding all the bottlenecks they were previously having.

2.5 EOSDIS Update

Reber reported that they have developed a good web interface to get Terra data. The interface consists of a product table with links to either the EOS Data Gateway (for Land products) or the Goddard DAAC's Terra WHOM (for Ocean and Atmosphere products). When users click on the links provided, they are taken into the EDG or MODIS No-frills Data Access with the product search already completed, i.e. they bypass the product or keyword search. Currently, the EOSDIS table doesn't permit users to select more than one product at one time.

2.6 MAST Update

Lindsey presented the latest iteration of a help guide for ordering MODIS data, which should be available on the MODIS website in a hidden directory at the end of next week. Currently the guide consists of a series of pages that encourage users to gather certain information about products before entering the EDG or other ordering interface. There is also a tutorial for using the EDG and the Land 250m ordering system.

The help guide was developed before the functionality described by Reber was in place. How to incorporate that functionality into the MODIS web guide is under consideration.

Conboy reported that we have a temporary hold at Columbia Sheraton for the MODIS Science Team Meeting.

2.7 NOAA/NESDIS Update

Ramsay reported that the 10 Megabit/second line planned between GSFC and NOAA/FB4 is delayed until January or later. They are looking at alternatives. System preparation is underway for acquisition and posting of MODIS data from NB4 to NOAA Science Center.

Regarding the use of MODIS products by NOAA, they have developed draft procedures for the evaluation and use of retrospective and near-real-time MODIS snow/ice products by NESDIS operational meteorologists. Arrangements are being made for the transfer of these near-real-time products from NESDIS to NSIDC DAAC and the NIC. They are

making arrangements to provide website links between NESDIS operational and research pages and the MODIS Snow/Ice Global Mapping Project sites.

Esaias reminded Ramsay of previous discussion about having an algorithm review committee prior to NOAA releasing near-real-time data products, and asked if such a review was still planned. Ramsay indicated that Kent Hughes is prepared to begin working on review and validation of algorithms using MODIS data with their own algorithms. He will suggest to Hughes that there be a discussion with Oceans about this.

2.8 Project Scientist Update

Murphy brought up the issue of the direct broadcast feed being turned off for a few minutes each day while the spacecraft is in view of an operating Deep Space Network station. Dennis Chester has offered to post information about those predicted downtimes on his web page. Murphy also reported that he had received only minor changes to the product release schedule he is tracking and sending on to Reber.

2.9 Oceans Update

Esaias reported that some Oceans Level 3 products are available. The weekly products are being staged and should be available Monday or Tuesday. They are aware of some bin anomalies and overweighting of pixels.

Miami had reported that they originally thought it might take four to five days to update the Oceans Level 2 LUTs after receiving MCST's LUTs, but now they think it may take 2 weeks once they get L1a subset data and the new LUTs. It will take an additional week to get the code changes into MODAPS operations, as this requires a new version.

Esaias also commented that the variation in mirror-side effects over time has the potential to negatively impact reprocessing in a Golden Month scenario. It is possible that Oceans data products may be no more useful than before and could be worse, unless mirror side effects are corrected for the particular time period considered. Currently, corrections exist for only two of five periods on Side A: April-May and August-October.

2.10 Land Update

Vermote reported that they are working on several Golden Month PGE fixes, and that things are going reasonably well.

3.0 Action Items Carried Forward

3.1 Salomonson: Work with Yoram Kaufman and Skip Reber to produce some metrics from the science community to describe the status of data processing as accurately as possible.

Status: Ongoing.

3.2 MODIS Science Team: Send updates on MODIS metadata terms/valids to Skip Reber (reber@skip.gsfc.nasa.gov). These are terms that enable users to search MODIS data. This is part of a request to the Terra Instrument teams to update metadata terms.

Status: Ongoing. Group needs Reber to clarify, reiterate the request.

3.3 Masuoka: Represent MODIS concerns on data throughput to EDOS.

Status: Ongoing. The Review Committee is now preparing a report articulating the impacts to the community.

3.4 Kempner to provide a hardware upgrade schedule, including direction on processing power.

Status: Ongoing.

3.5 Need discussion between SDST and NOAA on completeness of data and process by which we can get more rapid turn around on snow cover and also perhaps sea surface temperature.

Status: Ongoing.

3.6 Murphy asked disciplines leads to provide final updates to product release table.

Status: Ongoing.

3.7 Discipline leads to meet to resolve the issue of beta release code and science-quality code, and what we need to say about it.

Status: Ongoing.

4.0 New Action Items

4.1 Murphy to draft an official request regarding GDAAC processing during the wait for the new look up tables.

Status: Closed.

4.2 Reber to find a data policy statement to the effect that the project had planned to release all software to the public.